St. Juliens Creek Annex Partnering Team Meeting Minutes: August 10 and 11, 2005

Attendees: Bob Schirmer/NAVFAC MID LANT
Agnes Sullivan/NAVFAC MID LANT
Todd Richardson/EPA (Region III)
Jim Cutler/VDEQ
Kim Henderson/CH2M HILL
Janna Staszak/CH2M HILL

Tier II Link: Bob Schirmer/NAVFAC MID LANT

Guests: Mark Kluger/Dajak, LLC
Ed Corl (by phone)/NAVFAC
Simeon Hahn/NOAA
Bruce Pluta/EPA (Region III)
Dave DeCaro/CH2M HILL

From: Janna Staszak/CH2M HILL

Date: August 26, 2005

Location: CH2M HILL, Philadelphia, Pennsylvania

Wednesday, August 10, 2005

0830 Welcome/Check In

Roles and Responsibilities for this meeting:

Meeting Manager:	Bob Schirmer
Timekeeper/Gatekeeper:	Kim Henderson
Host:	Todd Richardson
Goalkeeper:	Bob Schirmer
Facilitator:	Jim Cutler
Recorder:	Janna Staszak

Ground Rules

I. Review Agenda, Meeting Minutes, Action Items, and Parking Lot from the Previous Meeting

Review Agenda:

No changes were made to the Day 1 agenda. Bob introduced Agnes Sullivan, the new Navy Remedial Project Manager (RPM), to the team and a discussion topic regarding the Naval Facilities Engineering Command (NAVFAC) transition/facilitation was added to the roundtable on Day 2. Additional revisions were made to the agenda as needed.

Review Previous Action Items:

The team reviewed Action Items and carryover items from the June 2005 meeting. The Action Items were added to a separate spreadsheet and tracked at the meeting.

As a result of the responses to the previous Action Items, the following new Action Items were created:

Action Kim – Send Agnes web site links and password information.

Todd indicated that the Environmental Protection Agency (EPA) has come out with a new checklist for Land Use Controls (LUCs) in association with Record of Decision (ROD) implementation.

Action Todd – Send team the EPA LUC checklist.

Review Parking Lot:

- Indoor air vapor guidance – will remain in parking lot pending guidance

II. Basewide Tour

Objective: Provide Agnes with the background of St. Juliens Creek Annex (SJCA), review the active Installation Restoration (IR) sites, and discuss the potential path forward for each site.

Overview of Discussion: Presentation handouts were provided to the team. Kim showed a map of SJCA and indicated its location then provided a brief history of the base.

Historical information indicates that ordnance operations ceased and decontamination occurred in 1977. Agnes asked if that meant that there were no unexploded ordnance (UXO) items on the base. Kim explained that because of the historic operations, avoidance is practiced for all intrusive IR activities. An UXO subcontractor is on site with magnetometers to scan the surface and subsurface as intrusive work progresses. During removal activities, the UXO subcontractor observes and identifies any suspect items. No potentially live items have been found to-date at SJCA.

Agnes asked if the National Priorities List (NPL) is ranked by how bad the sites are. Todd indicated that sites are not ranked by magnitude of contamination on the NPL, but explained the numerically-based Hazard Ranking System used to assess potential hazardous waste sites for listing on the NPL.

Kim showed aerial photographs and reviewed the history and status of each active site (Sites 2, 3, 4, 5, 19, and 21). Agnes asked what controls are in place to keep people out of Site 2 while the investigation/remediation occurs. Kim indicated that the site is open but signs have been installed to indicate that there is an environmental hazard on site.

Agnes asked if the new LUC checklist Todd mentioned would be used for Site 3 since a ROD has been submitted. Todd indicated that because Site 3 is a No Further Action (NFA) closure, LUCs will not be implemented.

Agnes asked if we investigated the groundwater at Site 19 and Kim indicated that we did and no concerns were identified.

Action Todd – Update the SJCA page on the EPA web site with Agnes's contact information.

Action Kim – Send team an updated contact list.

III. Site 17

Objective: To review background information, previous investigation results, and determine the path forward for official closeout of Site 17 (address with Site 2 or separately).

Overview of Discussion: Presentation handouts were provided to the team. Kim presented historical photographs of the site then reviewed the site background. Site 17 is immediately north of Site 2. Buildings 278/279 at Site 17 have been demolished but the concrete slabs are still in place.

In 1981, the Initial Assessment Study (IAS) indicated that lead-acid battery maintenance operations were occurring at Building 279, but no indication of release was revealed. The Resource Conservation Recovery Act (RCRA) Facility Assessment (RFA) in 1989 indicated the site was being used for satellite storage (Area of Concern [AOC] A). Two 55-gallon drums of commercial degreaser were observed and overflowing. The drums were referred to RCRA and containment was recommended.

Kim distributed tables of the laboratory analytical data collected during the 1986 Relative Risk Ranking (RRR) (unvalidated data) and 2001 Site Investigation (SI) (validated data). Soils exceedances include metals, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs). The highest concentrations of metals were found closest to Site 2. The concentrations of PAHs are not a tremendous concern because they are commonly found at similar concentrations adjacent to parking lots. The elevated detection (2,700 C ppb) of Aroclor-1260 is a concern. The SI had recommended further investigation for metals and PAHs, but PCBs were not identified as a concern.

Kim noted that as an area of potential petroleum contamination was identified during trenching and monitoring well installation at Site 2, located just south of Site 17. This may or may not be related to the drums of degreaser, formerly stored at Site 17. There were also four former above ground storage tanks (ASTs) east of the site and one underground storage tank (UST) southeast of the site.

Todd indicated that initially, the team intended to conduct a removal of the PAHs and metals in soils based on the expectation that the building foundation would be removed during demolition. When the foundation was not removed, it was decided to address Site 17 as part of Site 2 due to the close proximity. Therefore, Site 17 was listed as a NFA site in the 2004 Federal Facilities Agreement (FFA). Since Site 17 is listed as a high priority site in NORM, it cannot be downgraded; instead, a reference can be made to the FFA along with the indication that Site 17 will be addressed as part of Site 2 due to the close proximity.

The team discussed the path forward for Site 17. Jim indicated that he does not think the site has been fully characterized because of the elevated concentration of Aroclor-1260, but if a removal action is planned then additional characterization may not be necessary. The team discussed how a removal action will be conducted if the building foundation/slab is never removed. Todd asked Bob if the foundation can be removed with Environmental

Restoration, Navy (ER,N) funds in order to remove the soil. Bob indicated that it was possible.

Action Agnes – Find out the future plans for the Building 279 foundation at Site 17.

The team agreed that the path forward should remain to address Site 17 under Site 2. Agnes asked what the benefit of putting it under Site 2 is. Bob indicated that progress under the environmental program is indicated by closing out sites with NFA.

The team considered the need to rerun the surface soil risk assessment. Bob recommended that the risk assessors qualitatively evaluate the risk associated with adding the Site 17 surface soil to the Site 2 risk assessments.

Action Kim – Have human health risk assessor look at Site 17 data qualitatively for impact to Site 2 Human Health Risk Assessment (HHRA).

Action Bob – Discuss Site 17 PCBs with Dawn.

Path Forward: Incorporate the Site 17 data into the draft Site 2 ERI.

IV. Site 2

Objective: Review the Site 2 DNAPL plume data, discuss potential remediation technology, hear about electrical resistance heating (ERH) from Dajak, discuss the Tiger Team procedure, and consider alternate uses for Site 2 Fiscal Year (FY) 2006 funding.

Overview of Discussion: Handouts of the presentation were distributed. Janna reviewed the Site 2 information in order to prepare the team for the Dajak presentation. The size of the plume and the contaminants were reviewed. Bob asked if the team is sure the chlorinated volatile organic compound (cVOC) plume is dense, non-aqueous phase liquid (DNAPL). He indicated that one of the members of the Naval Facilities Engineering Service Center (NFESC) Tiger Team had asked him about it in an email.

Action Bob – Send NFESC DNAPL question email to Kim – They asked if we really have DNAPL at Site 2.

Action Kim – Look at the NFESC DNAPL email and verify that Site 2 plume is DNAPL.

Janna reviewed the geology of Site 2 and listed the various technologies that may be considered.

Mark Kluger of Dajak provided a summary of his company and of ERH technology. The presentation was for informational purposes only. The following summarizes the discussion:

> Mark provided a summary of Dajak, LLC. Mark indicated that he is the only employee of Dajak, LLC. Dajak serves as a sales representative for six different companies that provide technologies appropriate for DNAPL remediation, including Thermal Remediation Services (TRS) for ERH. He indicated that Dajak is not a broker (don't have to go through him). Mark indicated that TRS/Dajak has worked with the Navy in the past. He indicated TRS is currently implementing ERH as a subcontract to Shaw Environmental, Inc. for a Tetra Tech NUS design at the US Naval Academy in Annapolis, MD.

The team provided some background to Mark regarding Site 2. Mark asked if DNAPL was identified. The team told him that TCE was detected at 330,000 ppb, and he indicated that DNAPL was likely present. Mark indicated that the rule of thumb to designate DNAPL is 1% solubility. He indicated that the majority of the mass of contamination is in the DNAPL itself.

DNAPL technologies include ERH, steam heating (fluid, goes into permeable units), and conductive resistance heating (CRH). ERH costs less than generally assumed is cheaper than CRH (about 40% the cost of CRH). ERH and CRH are similar in a few ways: neither are effected by permeability or heterogeneity issues and for both, wells (electrodes) are installed in the ground and then heated. The treatment zone is then dewatered to raise the temperature to at least 100 °C. The maximum temperature achievable with ERH is 100 °C, but CRH can achieve higher temperatures. However, he indicated that higher temperatures are not any more effective because 100 °C is the maximum temperature/boiling point of water. Mark explained how ERH works: ERH turns liquid phase to gas through steam distillation. ERH increases the NAPL dissolution rate, and increases biotic and abiotic reaction rates. The electrodes direct the flow of electricity among the electrodes and the resistance to flow of electricity generates heat. Electrodes are installed at 15- to 20-feet centers. Closer spacing causes faster temperature rise. It generally takes about 30 days to reach the boiling point. Remedies last 3 to 8 (usually 4 to 6) months, then it takes the site 12 to 24 months to cool down. The elevated reaction rates continue through the cooling period. ERH is powered through the municipal power system: Municipal power is connected to the power control unit (PCU), which sends power to the electrodes by phase (3 phase heating). Heating creates steam that collects in the vadose zone and must be collected. PCUs range in size from 500 kW to 2 mW. For a site the size of Site 2, a 500 kW PCU would most likely be sufficient.

Mark reviewed ERH technology. ERH technology is an outgrowth of thermal vitrification. He indicated that the technology is simple; it just heats. ERH allows treatment of the entire zone at the same time. ERH is commonly used to achieve 99% mass reduction. The cost for 99% reduction ranges from $50 to $100 per cubic yard, with a minimum of $250,000. That cost is the total project cost, including electricity, permitting, mobilization, demobilization, drilling wells, construction electrodes, water treatment and disposal, consultant time, and reports. The cost excludes monitoring wells and a guarantee. Electricity represents approximately 15% of the total project cost ($7.50 to $15 per cubic yard). TRS will provide a guarantee for an additional $10 to $30 per cubic yard. Mark indicated that ERH generally becomes effective for sites 1/6 acre or larger.

Todd asked about ratchet effect with electricity, in which a certain threshold of usage ratchets the facility up to a higher level usage level and cannot be reversed. Mark indicated that SJCA should have sufficient power capability; ERH does not use any more electricity that a typical shop.

Bob asked what the down side of ERH is. Mark responded that it is not as cheap as other technologies and that it is not appropriate for compounds that are miscible. TRS has applied ERH in 30 to 32 DNAPL areas. About half of the applications were guaranteed and about two thirds were under buildings or under roads. Mark indicated that ERH is frequently used as part of a treatment train; ERH is used to treat the majority of the mass, then another technology (such as bioaugmentation) is chosen. Mark indicated that remediation greater than 99% can be achieved by ERH,

but an additional 15% cost is added for each order of magnitude so switching to a different technology is often more effective.

Jim asked how the bioaugmentation works with the sterilized soil (boiled). Mark indicated that the temperature of the soil needs to be allowed to cool down enough to allow the survival of the organisms, and the temperature is constantly monitored.

Mark indicated that ERH had been used at Charleston Naval Station (Dean Williamson/CH2M HILL) to achieve 85% mass removal. Additional case studies and answers to frequently asked questions can be found at http://www.thermalrs.com.

When asked about the containment of the ERH, Mark indicated that when the depth to groundwater is less than 5 feet (which is the case of Site 2) a cap of some sort may be required over the treatment zone. However, Greg Beyke of TRS would have to make that determination.

The following action items were developed as a result of the Dajak presentation:

Action Todd – Talk to Jim Cummings/EPA about ERH and TRS.

Action Janna – Talk to Dean Williamson/CH2M HILL about Dajak and TRS regarding their ERH application at Charleston Naval Station.

Action Agnes – Contact Jennifer Melton/CHESDIV (202-685-3275) for information on ERH and the application at Annapolis.

The team continued to discuss Site 2. Bob reviewed the Tiger Team process and schedule. Kim will provide the Site 2 information to the Tiger Team as soon as she receives an address for submittal. The Tiger Team will review the data and identify any data gaps by October 1, 2005. The SJCA partnering team will have to determine if the data gaps should be addressed through additional investigation. The Tiger Team will then conduct a site visit and evaluate the possible alternatives. They plan to provide a report of their findings by October 30. Once the Tiger Team report is received, the partnering team will have to determine if a pilot or treatability study is warranted to address the groundwater and if FY 2006 funding will be sufficient.

Janna suggested that the team consider collecting waste characterization samples to determine whether or not the soil would require hazardous disposal if it were excavated. The team agreed that waste characterization samples could be valuable in determining a path forward for the site.

The team discussed possible uses for the FY 2006 money if a pilot study is not warranted on the groundwater/DNAPL plume. Possible uses for the funding include phasing the Site 2 waste removal or the Site 5 waste removal. Prior to a removal action at either site, an engineering evaluation/cost analysis (EE/CA) and Action Memorandum will have to be prepared. The Site 5 EE/CA is currently underway and the Site 2 EE/CA is not yet planned. Therefore, a waste removal at Site 5 may be a good alternative use for the funding.

Path Forward: Submission of the draft Expanded Remedial Investigation (ERI) report by September 30, Tiger Team evaluation in October, and team consideration of waste characterization sampling. The Team will need to review the data gaps identified by the Tiger Team and determine if they should be addressed. In addition, based on the results of

the Tiger Team study, the team should plan on selecting a use for the FY 2006 funding in November.

V. Site 21 Tech Memo Work Plan

Objective: Consensus to mobilize for the field work.

Overview of Discussion: Handouts of the presentation were distributed. Kim indicated that the Site 21 Technical Memorandum Work Plan had been submitted for further delineation of the cVOC plume and storm sewer survey. Mobilization for field work is being considered for September or October, and it takes about a month to procure subcontractors. Therefore, Kim asks that the team review and comment on the work plan so that field work may proceed.

Kim reviewed the field activities identified in the work plan. The purpose of the investigation is to delineate the eastern boundary of the cVOC plume and determine the extent of cVOCs under Building 1556. The work plan calls for the installation of 22 temporary wells followed by sampling for VOCs analysis. Two to 3 permanent shallow groundwater monitoring wells would be installed based on these results and sampled for full suite analysis. In addition, a round of samples will be collected from the existing shall monitoring wells for VOCs analysis. Samples would also be collected from MW01S and MW01D for arsenic analysis to confirm the previous Maximum Contaminant Level (MCL) exceedances. Field activities are also to include conducting a video survey to locate any existing leaks in the storm sewer system. Although funding is not expected for the storm sewer survey until FY 2006, details were included in the work plan for ease of implementation at a later date.

Kim indicated that site approvals are necessary for mobilization. Jeff Weisman had submitted the environmental checklist for a membrane interface probe (MIP) investigation at the end of July. Kim asked if that submission was still valid, or if the site approval process should be restarted. Bob indicated that there are ongoing internal discussions regarding notifications and that the process may have changed.

Action Agnes – Review the Site 21 Technical Memorandum Work Plan and get approval to install 5 temporary wells in Building 1556.

Consensus: The team agrees to accept the draft submittal of the Site 21 Tech Memo Work Plan (July 2005) as final and to proceed with implementation of the work plan.

Action Kim – Finalize the Site 21 Technical Memorandum Work Plan.

Path Forward: Implement the Site 21 Technical Memorandum Work Plan to delineate the plume and locate leaks in the storm water system and then to select and implement a remedial technology.

VI. Site 4

Objective: Update the team on the construction status and discuss post-construction planning (Post-ROD modification tech memo, Construction Closeout Report, LUC implementation, Remedial Action Completion Report (RACR), voluntary groundwater performance monitoring, and 5-year review).

Overview of Discussion: Handouts of the presentation were distributed. Janna provided an update on the construction project and the upcoming actions/submittals associated with the completion of construction.
Verbal approval was received from the Resident Officer In Charge of Construction (ROICC) on the Task Order (TO) 028 change order to proceed with extension of the soil cover to the west. The Agviq/CH2M HILL Joint Venture (JV) I has in turn cleared the trees and vegetation from the remaining waste area. The cover extension has continued through that area and is approximately 75% complete. The western drainage ditch will be shaped to tie into the existing topography. Fine grading of the general fill over the rest of the cover area is in progress. Topsoil has been placed on the eastern slope and is continuing across the cover toward the west. The eastern ditch has been cleaned out of sediment, reshaped, and stabilized with erosion control matting. The wetland has nicely reestablished itself where the debris removal had occurred. Construction completion is expected by mid to late September. Janna presented pictures showing the current condition of the site.

Janna indicated that approval on the culvert installation to improve Site 3 drainage has not yet been received. The culvert installation will impact the fence installation at Site 4 because the culvert will pass under the fence line. The fence installation can be delayed for the short time without a cost impact because it is a subcontract and will not require remobilization of equipment or staff.

Post-ROD Modification Tech Memo: Janna passed out the Site 4 Draft Technical Memorandum to the team: Minor Modifications to the Selected Remedy Presented in the Record of Decision for Site 4. Janna indicated that the highlighted portions will be corrected once construction is complete and final information can be inserted. The team agreed that both of the changes (extension of the soil cover to the west and compensatory wetlands mitigation) are non-significant and will review the technical memorandum for format and content. The technical memorandum will be finalized at the completion of construction and added to the Administrative Record to serve as documentation of the post-ROD changes to the Selected Remedy.

Action Todd – Discuss the Site 4 ROD modification technical memorandum with ORC. Get feedback on the format.

Action Team – Review the technical memorandum for the ROD modification for Site 4.

Construction Closeout Report (CCR): The CCR will be submitted to the team within 30 days of the completion of construction. The CCR will include an introduction, project objects and scope, summary of action, summary of variations from original scope, a final health and safety report, complete lab and geotechnical results, disposal documentation, quality control summary report, as-built drawings, color photos, and final cost data.

Action Jim/Janna/Agnes – Coordinate the Site 4 pre-final inspection.

LUCs and Voluntary Groundwater Performance Monitoring: Because waste will remain in place at Site 4, LUCs will be implemented. The objectives of the LUCs are to prohibit digging into or disturbing the soil cover or landfill contents and to prohibit residential use and development of the site. The LUC Remedial Design (RD) was submitted in November of 2004 as part of the Maintenance and Performance Plan.

The "Maintenance and Performance Plan and Remedial Design for Land Use Controls for Post-Closure at Site 4 – Landfill D" includes the LUC RD, inspection plan, maintenance, and voluntary groundwater performance monitoring. The plan is outdated due to modifications that were made during construction (i.e., seed mixture change). Janna suggested that the plan be revised and resubmitted to reflect the construction modifications. She also suggested a separate voluntary groundwater performance monitoring plan be prepared and submitted since it was not required and was not part of the ROD. The team asked why groundwater monitoring is being conducted if it was not part of the ROD and what the data would be used for and what it would be screened against.

Kim indicated that the groundwater monitoring was planned due to waste being left in place and the purpose was to monitor the effectiveness of the soil cover and evaluate the site impact on groundwater quality to ensure no potential future releases will pose unacceptable risks. The team discussed the groundwater monitoring proposed by the previous team members. There are five existing shallow groundwater monitoring wells on site and four are proposed for monitoring (1 upgradient and 3 downgradient). The suggested frequency was to monitor quarterly for 1 year, conduct statistical analysis, then reevaluate the frequency. The groundwater would be monitored for the chemicals of potential concern (COPCs) only (arsenic, cadmium, iron, lead, thallium). The team decided to further contemplate and discuss the groundwater monitoring plan for Site 4 at the next meeting.

Action Jim – Talk to Debbie about the Site 4 Voluntary Groundwater Monitoring (What is the goal of the groundwater "monitoring"?)

Bob indicated that the groundwater monitoring should not be tied to the Virginia Solid Waste Management Regulations since it is not required. Kim indicated that she is concerned with the historic data and the sporadic metals exceedances of maximum contaminant levels (MCLs) and that ICP/MS should be used to rule out false positives.

Remedial Action Completion Report (RACR): The team discussed the submission of the RACR. Because Site 4 is only a small part of SJCA, which is the "site" on the NPL, it is uncertain of whether a RACR is appropriate. Janna indicated that the intent is to prepare an Interim RACR (IRACR) for Site 4 and to follow the format that Little Creek used for Sites 9 and 10. EPA guidance indicates that RACRs are used to remove sites from the National Priorities List (NPL). Todd and Bob indicated that they thought a RACR may be appropriate. The purpose of the IRACR is to document the completion of the remedial action, the remedy in place, and that the remedy is operational and functional in accordance with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
Action Todd and Bob – Determine whether a RACR or IRACR is appropriate for Site 4.

Action Bob – Send the team the Department of Defense principles.

5-Year Review: Navy guidance calls for the five year review to occur 5 years from the date of mobilization for construction (March 21, 2005). EPA guidance calls for the review to occur 5 years from the completion of construction. Because the Navy guidance is sooner, the 5 year review will be conducted to satisfy that requirement. Therefore, the draft report will be submitted on January 20, 2010 and the final 5-year review report will be submitted by March 20, 2010.

Kim reviewed the upcoming submittals for Site 4. Todd asked if any of the post-ROD documents are considered primary documents. Kim reviewed the FFA and determined that the RACR was identified as a primary document and the 5-year review report was identified as a secondary document.

Path Forward: Construction completion in September, submittals of post-ROD modifications tech memo, revised post-closure plan, and construction closeout report in October, begin planning for LUCs, survey plat, quarterly inspections and reporting, voluntary groundwater performance monitoring, and 5-year review.

Thursday, August 11, 2005

0830 Check In.

Review Agenda:

Revisions were made to the agenda as needed, the previous meeting minutes were placed in the parking lot. The Tier II discussion was added from yesterday afternoon and the roundtable was delayed until after lunch.

VII. Tier II Update

Objective: Update the team on the latest Tier II news.

Overview of Discussion: Bob explained who the Tier II team is to Agnes. Tier II wants to know if there are any ecological issues with the Tier I teams.

Tier II is observing groundwater/MCL flexibilities issues. Their observations so far: Technical folks should be involved early, during the document preparation and development (Jim indicated that VDEQ only has risk assessors); Expectation is that each team member has reviewed/concurred on conclusions (team consensus); Evaluate flexibilities as early in the process as possible (i.e., draft Remedial Investigation [RI] stage); Teams can use flexibility checklist to aid decisions regarding flexibilities options; Don't have to present a position paper, could be included as part of the RI. VDEQ will be presenting the Total Maximum Daily Loads (TMDLs) presentation at the next Tier II meeting.

Action Jim – Does EPA have to approve Virginia Total Maximum Daily Loads (TMDLs)?

VIII. Blows Creek BERA

Objective: To discuss the new electronic format of the Blows Creek Baseline Ecological Risk Assessment (BERA).

Guests: Ed Corl/NAVFAC joined by conference call. Bruce Pluta/EPA and Simeon Hahn/NOAA, both with the biological technical assistance group (BTAG) were present.

Overview of Discussion: Ed described the new conceptual format of the BERA. The objective of the new electronic format is to reduce redundancy and make BERAs more reader-friendly. The packaging will be similar to the Streamlined ROD (S-ROD), consisting

of an executive summary (few pages) with hyperlinks to more specific details (all on CD). All of the standard requirements of an ecological risk assessment (ERA) will be contained.

A key difference from standard BERA format will be enhanced graphics (more geographic information system [GIS] mapping). Hazard quotients (HQs) will be plotted to aide with visualization. Graphical output will help project teams to zero in on what the real issue is and to identify cleanup goals. Bruce indicated that similar concepts have been implemented at other sites and the graphics are extremely helpful. He does not see a problem with streamlining, although he indicated there can be some issues with ensuring all the information is clearly presented and easy to find. In addition, a lot of reviewers prefer to have hard copies. Kim indicated that a print option can be incorporated on the CD. Simeon indicated that a hard copy will still be necessary for the administrative record.

Bruce suggested that we review all of the conceptual comments on the S-ROD and make sure that they are addressed in the BERA. Kim informed the team that the electronically enhanced BERA is different from the S-ROD and to reevaluate the use of the term "streamlined" because of the current sensitivity to the term "streamlined" and different nature of the reports (relying on the administrative record for reference vs. hyperlinking to new information). Simeon would like to make sure that the data can easily be transported into larger data bases. Ed indicated that the environmental data management system, Naval Installation Restoration Information Solution (NIRIS), will incorporate the application of Spatial Analysis and Decision Assistance (SADA).

Path Forward: The Navy and CH2M HILL will work with EPA (Bruce and Simeon) throughout the process. Mike Elias/CH2M HILL will soon provide an outline and schedule to Ed which he will share with the team.

Action Kim – Provide BERA outline to team and BTAG for review.

IX. Site 5

Objective: Review the site status, discuss the EE/CA, discuss groundwater monitoring, and determine phasing of action.

Guests: Ed Corl/NAVFAC joined by conference call. Bruce Pluta/EPA, Simeon Hahn/NOAA, and Dave DeCaro/CH2M HILL were present.

Overview of Discussion: Handouts of the presentation were distributed and Kim began the discussion on Site 5. Kim reviewed the outcome of the meeting at SJCA on March 15, where the Port Authority presented the possibility of creating a wetland in the area of Site 5 for the Craney Island Conceptual Mitigation Plan. Kim stated that the purpose of having the guests attend this discussion is because the Port Authority has not contacted the Navy to begin conversations regarding their plan for the Site 5 area. The partnering team needs to move forward with remediating the CERCLA site-related contamination and wanted to inform the guests of the current options that the team is discussing.

Action Kim – Send Port Authority powerpoint (regarding Site 5) to team and BTAG.

Simeon indicated that he is on the mitigation subcommittee and Site 5 is still of particular interest. He also indicated that there is now consensus on the total package, so things

should be moving forward. Simeon has mentioned the plan to Randy Sturgeon (EPA coordinator for Environmental Restoration).

Simeon brought up the discussion during the March site visit where the team mentioned using the trees as a physical barrier for removal. He indicated that most of those trees are invasive species/low quality and that they do not need to be saved. Kim indicated that with the exception of two hot spot areas, there are minimal potential risks identified in the woodland area and the partnering team would like them to remain in place.

Kim reviewed the background of the site and the media of concern (waste, surface soil, drainage sediment, and shallow groundwater). The draft final ERI was distributed to the team (responses to comments [RTCs] and revised human health risk assessment [HHRA]) and additional comments are requested by September 11 for finalization of the ERI by October 11.

Action Team – Review draft final Site 5 Expanded Remedial Investigation by September 11.

Kim indicated that the recommendations of the final ERI will be to prepare an EE/CA for waste removal and to perform additional groundwater sampling. Janna discussed the EE/CA, which is currently planned for draft submittal by October 31, 2005. She reviewed a figure showing the waste area (4.3 acres) and the surrounding surface soil (14.8 acres) that are being considered for excavation. The team discussed whether the EE/CA should address both areas of concern or just the waste area. The team decided that the EE/CA should only address the waste area. In the future, either another EE/CA or a Feasibility Study (FS) will be prepared will be prepared to address the remaining site concerns.

Janna reviewed the different options under consideration for the waste area:

- no action
- excavation to visible limits, confirmation sampling, and backfill
- excavation to seasonal low mean groundwater level and backfill
- excavation to visible limits, confirmation sampling, and wetlands creation;
- excavation to seasonal low mean groundwater level and wetlands creation

Janna discussed the potential removal depths, either to seasonal mean low groundwater level (approximately 3.9 feet below ground surface [bgs]) or limits of visible waste (approximately 2 feet bgs). Although the team has previously discussed that confirmation sampling may be complicated because the site is located on dredge fill material, the disposal cost may be significantly higher for simply excavating to low mean groundwater. In addition, because the groundwater is normally higher than seasonal low mean, additional cost will most likely be incurred for the handling of the water encountered during excavation. The team agreed that if confirmation sampling were chosen, sampling for the COPCs on 50-foot grids would be appropriate. Bruce indicated that preliminary remediation goals (PRGs) would need to be generated. Kim recalls that they may have already been developed for the entire Sites 3, 4, 5, and 6 area.

The team will also have to determine whether to backfill the excavation or to create a wetland. Simeon indicated that his preference is to create a wetland, and that wetland creation will be cheaper than backfilling. Prior to developing a cost estimate for the EE/CA, it will be necessary to determine the excavation depth required to create a wetland and the

quality of wetland desired. If the excavation is not deep enough to result in a groundwater-fed wetland, hydrologic modeling will have to be performed in order to determine if there is enough surface water in the area to support a wetland. The most inexpensive wetland would be to simply seed the excavation with wetland species. A tidal wetland would require a deeper, more extensive excavation and may not even be possible to achieve as a result of the waste area removal. Dave DeCaro suggested that bio-benchmarking of nearby natural wetlands be performed in order to determine what elevation would be appropriate for Site 5. In addition, wetland delineation should be performed to assess the wetlands that are currently on the site. Because construction of a wetland will potentially result in groundwater becoming surface water and subsurface soil becoming sediment, the team compared the existing analytical results against screening criteria. The screening tables were provided to the team for review and requested feedback from Bruce and Simeon. If a liner would be required, it should be incorporated into the EE/CA. Simeon indicated that the wetland may be presented as a remediation technology. However, the team noted that using a treatment approach may result in post-removal monitoring requirements.

Action Kim/Janna – Send to BTAG revised Site 5 spread sheets comparing to sediment screening criteria.

Because the Port Authority desires a tidal wetland, it would not be cost effective to install a liner if the Port Authority will later come in and excavate additional material. However, the site remedy will have to be independent of the Port Authority because the timeframes for implementation may not line up.

The team discussed groundwater monitoring requirements. Jim indicated that he feels that the more rounds of samples we take, the better of we will be from a statistical standpoint for applying the groundwater flexibilities in the future. He indicated that all the monitoring wells should be sampled. Kim asked the team if anyone had found pre- and post-removal groundwater sampling requirements. She indicated that we may want to hold off on sampling if we were going to be removing the waste. Simeon indicated that removing the waste may remove the source of the contamination. Jim indicated that he preferred to collect the samples as soon as possible. The team discussed collecting 2 additional rounds of shallow groundwater data in FY 2006.

Janna reviewed the costs of the various options to aid with phasing. Removal of the waste and creation of a wetland, rather than backfilling would be cheaper, but the exact cost could not be determined because it is dependent on the required depth to create a successful wetland. Currently, funding is planned for use at Site 2 during FY 2006. However, if it is determined that the money cannot be spent at Site 2, it may be potentially used for the removal action at Site 5.

Path Forward: Comments due on the draft final ERI by September 11, submit final ERI by October 11, Simeon and Bruce review of groundwater and subsurface soil data by September 15, submit draft EE/CA for the waste area by October 31, determine timing for groundwater monitoring, and consider phasing of actions for future planning.

Action Agnes – Check on Port Authority letter for sites.

X. Roundtable

Team Facilitation – Bob previously told Tier II that he would attend several meetings with us to assess the need for facilitation.

Action Bob – Send facilitator checklist out to team.

Wetland Delineation – Kim recommended the team consider wetland delineation at Sites 2 Sites 2 and 5. Janna indicated that the acceptable time limit for wetland delineation is 4 years.

Action Bob - Add wetland delineation to general SOW for Site 2 and 5.

Site 19 – Kim indicated that the figure of the Supplemental SI had an incorrect area for the Site 19 elevated subsurface PAHs area. The correct area is 1,084 square feet. Agnes will check the Scope of Work (SOW).

Action Janna/Kim/Agnes – See if the Site 19 railroad tracks are still there (and if so, Agnes find out if they are scheduled for removal prior to Site 19 removal action).

Site 3 ROD – Bob indicated that the Navy signatory has still not been determined. Todd asked if it will be complete in FY 2005. He would like to revise the EPA schedule if the FY 2005 goal will not be met.

Action Bob – Check on Site 3 ROD signature – when can the NNSY Installation Commander (IC) sign it?

Restoration Advisory Board (RAB) Minutes – Bob is waiting on feedback from the Navy Public Affairs Officer (PAO). He envisions sending the minutes out with a memo response. Todd talked to his Community Involvement Coordinator (CIC), Bill Hudson, who may become more involved with the RAB. Bob suggested the PAO and CIC get together and come up with a plan of action. As for the bridge, the real estate office may be the best agency to address the property questions. Since there has been no response from the PAO to-date, Bob indicated that we may need to send the public the minutes and indicate they should contact the PAO with any additional questions.

Action Agnes/Bob – Forward SJCA RAB Minutes to NNSY PAO to address.

Community Involvement Plan (CIP) – Bob instructed to accept as final, but we want to resolve who the correct PAO is that should be identified in the document. Kim also questioned if there is a requirement for a public comment period.

Action Todd – Verify that the CIP needs a public notice by August 31, 2005.

Defense & State Memorandum of Agreement (DSMOA) – Jim indicated that he is currently preparing the DSMOA for FY 2006.

Action Jim – Send Agnes an electronic copy of the DSMOA.

XI. FY 2006 Goals

Objective: Develop draft FY 2006 Goals

Overview of Discussion: Bob presented his list of FY 2006 Goals. Kim prepared a table of the goals. The draft FY 2006 Goals are included as an attachment.

XII. Partnering Exercise

Objective: Rate the team's performance to determine areas for improvement.

Overview of Discussion: Jim led a partnering exercise to rate the team in various categories and to identify areas in need of improvement. As a result, the team decided to come better prepared to the meetings in order to reduce repetition of topics and increase efficiency. The team will review the previous meeting minutes and/or past presentations prior to meetings.

XIII. SASR and FY 2005 Team Goals Update

SASR: The SASR was updated and is included as a separate file.

FY 2005 Team Goals: The FY 2005 Goals were updated, included as an attachment, and will be posted on the Virginia/Maryland Joint IR Teams web site.

XIV. RAB Agenda Building

October 11, 2005 Meeting Agenda

Topic	Lead	Time
May RAB Review	Bob/Agnes/Todd/Jim	15 minutes
Community Involvement Plan	Kim	15 minutes
Site 4 Construction Completion	Janna	15 minutes
FY 2006 Spending	Bob/Agnes	15 minutes
Site 19 Removal Action	Kim	15 minutes

RAB meeting: October 11, 2005
Location: Major Hillard Library, 824 Old George Washington Highway, Chesapeake, Virginia
Start time: 5:30 PM

Action Kim – Send Agnes RAB notice by August 30, 2005.

Action Agnes – Publish public notice for October RAB meeting by September 11, 2005.

Action Agnes/Kim – Set up the RAB.

XV. Agenda Building

October Meeting Agenda

Topic	Goal	Lead	Time
Enterprise Web Site Training	I - Orient the new members for Enterprise use	Kim /Becky Jackson	1 hr
Site 2 Tiger Team, Deep Groundwater, Waste Characterization Sampling	I, C- Discuss status of Tiger Team/data gaps.	Bob/Agnes/Kim	2 hr
Site 5 EE/CA	C, D - Finalize options for EE/CA	Janna	1 hr

Site 19 EE/CA	I, C – Discuss Site 19 EE/CA and comments/finalization/action memorandum	Janna	0.5 hr
Site 4 RACR/Voluntary Performance Monitoring	C, D – Decide RACR or IRACR, plan groundwater monitoring.	Kim/Janna	1 hr
RAB Review	C – Review RAB meeting, discuss any resulting actions	Team	0.5 hr
Roundtable	I – Miscellaneous topics (Site 21, Site 17, FY 2005 swing projects)	Team	0.5 hr
Entrance/Partnering Activity	C - Welcome Agnes to the team/Team activity (biking at the beach or hiking in the park?)	Team	4 hr

Next meeting: October 12 - 13, 2005
Location: Virginia Beach Resort and Conference Center, Virginia Beach, Virginia
Lodging: Virginia Beach Resort and Conference Center, Virginia Beach, Virginia
Start time: 8:30 AM Day 1 (8:30 to 1:00, followed by activity)
Finish time: 4:00 PM Day 2 (8:30 to 4:00)

Chair: Jim Cutler
Host: Kim Henderson
Timekeeper: Todd Richardson
Goal Keeper: Agnes Sullivan
Recorder: Janna Staszak
Facilitator: Kim Henderson
Tier II: Bob Schirmer
Guests: Becky Jackson (CH2M HILL)

Pre-meeting Agenda Conference Call: 10:00 AM on October 4, 2005
Call-in number: 1-888-232-0362 (Host Code: 100890 Participant Code: 191819)

XVI. Future Meetings Schedule

December 7-8, 2005	Williamsburg, VA
February 1–2, 2005	Richmond, VA
March 15-16, 2005	Philadelphia, PA

XVII. Meeting Evaluation

During the Partnering Session, the Team filled in "+" and "Δ" to list the positives and negatives of the meeting.

Jim provided facilitator feedback.

XVIII. Parking Lot

Review Previous Meeting Minutes:

Bob made minor revisions to the Site 2 discussion. Todd asked that the objective of the groundwater flexibilities discussion be adjusted to make it clear that it a case study for informational purposes only, and not official guidance/policy. The revisions were made real-time.

Consensus: June 2005 Draft Meeting Minutes accepted as final after minor revisions. The final minutes will be posted on the Virginia/Maryland Joint Installation Restoration (IR) Teams web site.

Site 21 Benzene:

Kim reviewed the existing benzene data at Site 21. Benzene was detected at a concentration of 75 ppb in MW09S, just upgradient of the cVOC plume. Benzene has not been detected within the cVOC plume to date based on the current delineation. The benzene may be a result of two former USTs, a pump island, and corresponding piping that were located just north/northwest of former Building 201.

Bob also forwarded Kim a Baker report regarding some soil characterization and removal prior to the construction of Building 1556 to search for additional cVOC data. Kim read the Baker report but did not find any additional information on TCE, only TCLP samples were collected and TCE was not detected. In Bob's email he also mentioned some old well point discharges where they sampled (they said they are experiencing high TCE and oil/grease readings). Kim would like to review this information if possible.

To remain in parking lot:

- Indoor air vapor intrusion – pending guidance